

**REMARKS/ARGUMENTS**

The Office Action mailed August 2, 2006 has been carefully reviewed. Reconsideration of this application, as amended and in view of the following remarks, is respectfully requested. Claims 1-17 appeared in the application as filed. Claims 1-10 are withdrawn from consideration as a response to a restriction requirement. Claim 12 has been cancelled. The claims presented for examination are: amended claims 11 and 13-17.

**Restriction Requirement**

The Election/Restriction Requirement mailed May 19, 2006, required restriction to one of the inventions as grouped below. The requirement is supported under 35 U.S.C. §121.

I. Claims 1-10, drawn to a method of producing a DNA molecule, classified in class 536, subclass 25.3, or

II. Claims 11-17, drawn to a method of fabricating a DNA molecule using computational techniques and arrays, classified in class 702, subclass 19.

Applicants elected, without traverse, the claims of group II., claims 11-17, drawn to a method of fabricating a DNA molecule using computational techniques and arrays.

**35 U.S.C. §112 Rejection**

In numbered paragraph 3 of the Office action mailed August 2, 2006, claims 11-17 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for a number of reasons.

Claims 11-17 were rejected under 35 U.S.C. §112, second paragraph, because claim 11 recites, “a method of fabricating a DNA molecule” and further recites, “preselecting DNA segments, arraying fragments, temporal separation, and assembling groups into DNA molecules to produce a DNA molecule of user-defined sequence.” Applicants have amended claims 11-17 to delete the word “fabricating” and substitute the word “producing.”

Claims 11-17 were rejected under 35 U.S.C. §112, second paragraph, because claim 11 recites, “to break .... sequence into fragments.” Applicants have amended claims 11-17 to clarify that the step is to “to virtually break .... sequence into fragments.”

Claims 11-17 were rejected under 35 U.S.C. §112, second paragraph, because claim 11 recites, “arraying ... fragments ... into groups.” Applicants believe that since the amendment described above clarifies that the step of “using computational techniques to virtually break .... sequence into fragments” is a virtual step, and that the step of “arraying ... fragments ... into groups” is an actual step. The fact that the step of “arraying ... fragments ... into groups” is an actual step is fully described in the disclosure.

Applicants believe that the amendments overcome the rejection of claims 11-17 under 35 U.S.C. §112, second paragraph, and that a complete response to the rejection has been provided.

#### **35 U.S.C. §102 Rejection – Selifonov Reference**

In numbered paragraph 5 of the Office Action mailed August 2, 2006, claims 11, 14, 15, and 17 were rejected under 35 U.S.C. §102(b) as being anticipated by the Selifonov reference (WO 00/42560).

Applicant has amended claim 11 to incorporate the limitations of claim 12 and claim 12 has been cancelled. Claim 12 was not rejected under 35 U.S.C.

§102(b); therefore, amended claim 11 which incorporates claim 12 is believed to overcome the 35 U.S.C. §102(b) rejection as being anticipated by the Selifonov reference. Since claims 14, 15, and 17 depend from amended claim 11, they are also believed to overcome the 35 U.S.C. §102(b) rejection as being anticipated by the Selifonov reference.

### **35 U.S.C. §102(e) Rejection – Evans Reference**

In numbered paragraph 6 of the Office Action mailed August 2, 2006, claims 11-17 were rejected under 35 U.S.C. §102(e) as being anticipated by the Evans reference (US 2003/0087238).

Applicants have amended independent claim 11; therefore claim 11 is now presented in amended form. Claims 13-17 depend from amended independent claim 11. Applicant believes the invention claimed in amended claim 11 and dependent claims 13-17 is not anticipated by the Evans reference. The standard for a 35 U.S.C. §102 rejection is stated in RCA Corp. v. Applied Digital Systems, Inc. 221PQ 385, 388 (d. Cir. 1984) "Anticipation is established only when a single prior art reference discloses, either expressly or under principles of inherency, each and every element of a claimed invention."

Applicant points out that the following step(s) of Applicants' amended independent claim 11 and dependent claims 13-17 are not found in the Evans reference:

"assembling said groups into double-strand DNA molecules of predetermined base-pairs using parallel synthesis, DNA shuffling, and DNA polymerase wherein said step of separating said DNA sequence segments temporally and said step of assembling said groups into double-strand DNA molecules of predetermined base-pairs is accomplished by said DNA sequence segments being added gradually, in sequence order to produce said DNA molecule of user-defined sequence."

Since the step(s) described above are not found in the Evans reference, the Evans reference does not support a 35 U.S.C. §102(e) rejection of Applicants' amended claims 11 and dependent claims 13-17 and the rejection should be withdrawn.

**35 U.S.C. §102(a) and §102(e) Rejection – Evans Reference**

In numbered paragraph 7 of the Office Action mailed August 2, 2006, claims 16 and 17 were rejected under 35 U.S.C. §102(a) and 102(e) as being anticipated by the Evans reference (US 2003/0087238).

Claims 16 and 17 depend from amended independent claim 11. Applicant has amended independent claim 11; therefore dependent claims 16 and 17 are now presented in amended form. Applicant believes the invention claimed in amended dependent claims 16 and 17 is not anticipated by the Evans reference. The standard for a 35 U.S.C. §102 rejection is stated in RCA Corp. v. Applied Digital Systems, Inc. 221PQ 385, 388 (d. Cir. 1984) "Anticipation is established only when a single prior art reference discloses, either expressly or under principles of inherency, each and every element of a claimed invention."

Applicant points out that the following step(s) of Applicants' amended independent claim 11 are not found in the Evans reference:

"assembling said groups into double-strand DNA molecules of predetermined base-pairs using parallel synthesis, DNA shuffling, and DNA polymerase wherein said step of separating said DNA sequence segments temporally and said step of assembling said groups into double-strand DNA molecules of predetermined base-pairs is accomplished by said DNA sequence segments being added gradually, in sequence order to produce said DNA molecule of user-defined sequence."

Since the step(s) described above are not found in the Evans reference, the Evans reference does not support a 35 U.S.C. §102(a) or 102(e) rejection of Applicants' amended claims 16 and 17 and the rejection should be withdrawn.

**35 U.S.C. §103 Rejection – Office Action Paragraph 9**

In numbered paragraph 9 of the Office Action mailed August 2, 2006, claims 12 and 13 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over the Selifonov reference (WO 00/42560) in view of the Evans reference (US 2003/0087238). Applicant has amended claim 11 to incorporate the limitations of claim 12 and claim 12 has been cancelled.

There are claim elements missing from the Selifonov and Evans references. Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966) requires, "Ascertaining the differences between the prior art and the claims at issue." Applicants' element(s) of amended independent claim 11 and dependent claim 13 that are missing from the Selifonov and Evans references are set out below.

"assembling said groups into double-strand DNA molecules of predetermined base-pairs using parallel synthesis, DNA shuffling, and DNA polymerase wherein said step of separating said DNA sequence segments temporally and said step of assembling said groups into double-strand DNA molecules of predetermined base-pairs is accomplished by said DNA sequence segments being added gradually, in sequence order to produce said DNA molecule of user-defined sequence."

The burden is on the Examiner to factually support a *prima facie* case of obviousness. Applicants have shown that the references fail to show the above element(s) of independent claims 11 and dependent claim 13.

Since Applicants' claim element(s) are not shown by the references it is clear that combining the references would not produce Applicants' invention.

The facts that the two references, Selifonov and Evans, fail to show the element(s) and there is no showing of how a combination would produce Applicants' invention, make it clear that there could not be a combination of the references that would produce Applicants' invention. Accordingly, the Examiner has not factually supported a *prima facie* case of obviousness and the rejection should be withdrawn.

### **Double Patenting**

In numbered paragraphs 11 and 12 of the Office Action mailed August 2, 2006, claims 11 and 14-16 were rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over claims 27 and 29-32 of Co-pending Application 10/394,337 in view of Evans reference (US 2003/0087238).

Numbered paragraph 11 of the Office Action mailed August 2, 2006 stated, "A timely filed terminal disclaimer in compliance with 37CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application."

The Co-pending Application 10/394,337 and the subject application are commonly owned. Both the Co-pending Application 10/394,337 and the subject application are owned by The Regents of the University of California. The fact that the Co-pending Application 10/394,337 and the subject application are owned by The Regents of the University of California is established by assignments recorded in the United States Patent and Trademark Office.

Enclosed herewith is a terminal disclaimer in compliance with 37 CFR 1.321(c), disclaiming the terminal portion of any patent issue from this application which would extend beyond the expiration date of the full statutory

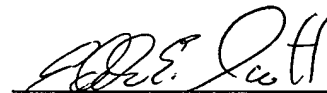
term defined in 35 U.S.C. §154 to 156 and 173 of prior Co-pending Application 10/394,337.

Applicants believe they have provided a full and complete response to the obviousness-type double patenting rejections in the Office Action mailed August 2, 2006.

**SUMMARY**

The undersigned respectfully submits that, in view of the foregoing amendments and the foregoing remarks, the rejections of the claims raised in the Office Action dated August 2, 2006 have been fully addressed and overcome, and the present application is believed to be in condition for allowance. It is respectfully requested that this application be reconsidered, that the claims be allowed, and that this case be passed to issue. If it is believed that a telephone conversation would expedite the prosecution of the present application, or clarify matters with regard to its allowance, the Examiner is invited to call the undersigned attorney at (925) 424-6897.

Respectfully submitted,



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